

0828-022



COPY OF PAPERS  
ORIGINALLY FILED

Imaging unit

RECEIVED  
APR 25 2002

OFFICE OF PETITIONS

Field of invention

5 The invention relates to an imaging unit in a printing press.

Background of invention

A printing press with a printing unit having a seamless image cylinder, which is coated with a dryable polymer by a direct image creation  
10 process in the printing unit is known from DE 19612927 A1.

The surface characteristic of the polymer on the image cylinder is converted completely or in certain areas by a selective laser after drying in order to changes its affinity for a printing ink. The image cylinder is used instead of the plate cylinder in a conventional printing press either in wet-  
15 offset printing or in dry-offset printing. The image cylinder is cleaned of the image carrying layer after the printing. This layer must not be removed totally.

The laser source, the coating unit and the drying unit are mounted side by side on a spindle drive. They are moved according to the spindle rotation  
20 over the width of the cylindrical imaging surface. The cleaning unit is

allocated separately.

The lacking complexity of the apparatus and necessary unproductive time during reversing of the spindle drive is disadvantageous.

5 Summary description of invention

Task of the invention is to provide a compact imaging unit with short operating time.

The task is solved according the invention by allocating the coating unit, the image creation unit and the developing unit together one below the  
10 other in traversing imaging unit.

Brief description of the drawing

The invention is described below in greater detail by an embodiment.

Figure 1 shows the imaging unit.

15

Detailed description

Figure 1 shows a printing form cylinder 1 with an imaging unit 2. The imaging unit 2 contains a cleaning unit 3, preferably using laser but possibly also working abrasive, a coating unit 4 located below the cleaning unit 3, an

image creation unit 5 located below the coating unit 4 and a developing unit 6 located below the image creation unit 5.

The operation of the four afore mentioned units is known and is therefore described only briefly. The image layer of the preceding printing job is removed from the printing form cylinder 1 by the cleaning unit 3. The coating unit 4 applies a new layer for taking the image to the printing form cylinder 1 by spraying or splashing. The image creation unit 5 is creating the image on this applied layer and with it creating the printing form for the new printing job.

10 The coating unit 4 and the image creation unit 5 are combined in a combination unit, which operates in this case on the ink jet principle. ?

The image creation unit 6 re-works the image carrying layer for instance hardening and/or cleansing, etc.

15 The image unit 2 is mounted on a not shown spindle carriage and traverses over the width of the printing form cylinder 1 in the direction of the arrow.

The combined allocation of the cleaning unit 3, the coating unit 4, the image creation unit 5 and the developing unit 6 in the imaging unit 2 permits an overlapping of the operating times of the different units. No reverse